

## Exhibit 1

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Unbundled Access to Network Elements	)	WC Docket No. 04-313
	)	
Review of the Section 251 Unbundling	)	
Obligations of Incumbent Local Exchange	)	CC Docket No. 01-338
Carriers	)	

**DECLARATION OF EMILY THATCHER**  
On Behalf of General Communication Inc.

1. My name is Emily Thatcher, and I am the Director – Regulatory Analysis of General Communication, Inc. (“GCI”). In that capacity, I analyze the impact of regulatory and legal changes on GCI’s network and operations. I have held this position for two years, and I have been with GCI since 1984 in network design, planning, and cost management positions.
2. In this declaration, I will describe and demonstrate GCI’s need for alternative access to the voice-grade loop where the incumbent has failed to provide a home-run copper loop, universal DLC loop system, or multi-hostable integrated DLC system
3. GCI has purchased and installed switches, constructed collocation sites, and run a fiber optic network in Anchorage, Fairbanks, and Juneau to provide facilities-based competitive local service in these areas. GCI’s entry strategy in each of its local service areas is to maximize use of its own facilities to provide service to customers. With these sunk investments already made, GCI has every incentive to maximize use of its own switching facilities to the greatest extent possible. However, the network configurations of the incumbent local exchange carrier (ILEC)

in these areas – ACS – precludes GCI's access to loops at both host and remote collocation sites. In the absence of any other loop access alternative, GCI can only gain access to the unbundled loop in combination with unbundled local switching, and unbundled transport, for so long as the ILEC network design prohibits GCI's access to loops via its own switching.

4. GCI's switch investment alone in Anchorage, Fairbanks, and Juneau exceeds \$6 million. "Installing a switch" to serve a geographic area requires significant investment beyond the piece of equipment itself. Once a competitive local exchange carrier (CLEC) has deployed a switch, in order to actually access loops, it must also construct collocation sites at the ILEC switch and install fiber to backhaul the loop to the CLEC switch site.

5. GCI has constructed collocation sites in eleven ACS sites—including each of the ACS host switches in Anchorage, Fairbanks, and Juneau—as well as investing in a fiber optic network to connect the collocation sites and the switches. Specifically, in Fairbanks, GCI spent over \$1,200,000 on the Globe collocation and over \$840,000 on the Greenwood collocation, in addition to the fiber network to reach the collocation sites. In Juneau, GCI spent over \$580,000 to collocate at Juneau Main and over \$540,000 on the Sterling site. GCI's collocation investments in Anchorage were undertaken several years earlier, but were typically higher. To fully benefit from these investments in facilities-based service, GCI must be able to access the unbundled loops available at the collocation sites combined with its own switching. Such access, however, is not always achievable.

6. Loops are aggregated at the host switch in the central office, so in theory, GCI should be able to access all the loops in the geographic area through collocation at the host site. ACS' network design, however, denies GCI access to customer loops, despite its significant investment in collocation. GCI uses unbundled local switching, or UNE-P provisioning, only when UNE-L



is not available. GCI has a clear incentive to maximize the benefit of its investment in switching and collocation whenever possible by using its own switching capacity and, to the extent GCI uses UNE-P, GCI cannot maximize the benefit of these significant switching and collocation investments. In these instances, continued access to unbundled local switching and transport as a remedy for these non-accessible loops is necessary because ACS' network design disrupts GCI's use of its deployed facilities.

7. Despite extensive investment in switching and collocation throughout the Anchorage, Fairbanks, and Juneau study areas, GCI is unable to use its own switching facilities to provision UNE-L when the individual customer copper loop terminates in certain types of concentrators or in remote switching modules rather than at the host switch or other remote site where GCI is collocated. When GCI has self-provisioned switching, collocated at the host switch, and still cannot access the customer loop, an alternative must be available to ensure GCI access to the unbundled loop.

8. ACS has deployed remotes, digital loop carrier (DLC) systems, remote switching modules, throughout its networks in each of Anchorage, Fairbanks, and Juneau, and in many cases, these devices impede GCI's access to the customer loop at the host switch. In Fairbanks, the ACS network design impedes GCI's access to approximately 29 percent of the loops, even though GCI has collocated beyond the ACS central office. In Juneau, the ACS network design impedes GCI's access to approximately 52 percent of the loops, even though GCI has collocated beyond the ACS central office. Even in Anchorage, where GCI has collocated in seven different sites, including all five ACS central offices where its host switches are located, there are still approximately nine percent of the loops that GCI is unable to access with its deployed switching facilities.

9. In many instances, GCI cannot access loops served by remote switches. This is because a remote switch combines the loops it serves into a concentrated umbilical link to the host switch, which precludes access to the individual loops at the host switch. ACS has deployed a variety of remote switching devices including Nortel Remote Switching Center Sonet (RSCS), Nortel Remote Line Concentrating Modules (RLCM) and Nortel Outside Plant Modules (OPM). An OPM is a RLCM that is housed in a cabinet designed for outdoor use. ACS has deployed these devices extensively in Fairbanks and Juneau, and to my knowledge, none of the devices permit access to the loop at the ACS host switch. Thus, GCI is impaired without access to unbundled local switching with respect the areas served by these devices.

10. A digital loop carrier system is a concentrator that may be housed in a small building or hut or a cabinet designed for outdoor use. Concentrators in an integrated mode feed the combined concentrated loops into the ILEC switch in a TR-008 or GR-303 format and do not have the capability of splitting out an individual analog loop at the switch. If the concentrator is capable of multi-hosting— when it can support GR303 links to multiple switches —GCI can establish a GR303 link between the concentrator and its own switch, and access loops through the GR-303 link. If the concentrator is not capable of multi-hosting, GCI cannot serve that loop with its own switch and is impaired.

11. In addition to concentrators that permit multi-hosting, concentrators in universal mode allow GCI to have loop access at the ACS switch. These concentrators convert the analog loop to a digital protocol for transport and re-convert the signal to individual analog outputs at the wire center, making it possible to access the individual loop out at the ACS switch and cross-connect with GCI on a copper loop basis. Universal DLCs permit GCI to access loops via its switching facilities, so impairment does not arise in this network configuration.



12. As demonstrated in the attached schematic diagrams of the ACS network for each system, the host switch is the point at which the customer loop originates and where GCI should be able to reach the customer loop via its deployed switching facilities. According to the FCC's definition, any transmission facility beyond the host switch and toward the customer premises—for example, at a remote, DLC, or OPM—is a sub-loop. For Fairbanks, Globe is the host switch. Juneau Main is the host for Juneau. For Anchorage, there are five host switches: East, West North, South and Central.

I will discuss each of the ACS' networks in Fairbanks, Juneau, and Anchorage,<sup>1</sup> and why GCI needs UNE-P as an alternative to reach customers served by non-accessible loops.

#### **Fairbanks**

13. ACS has one host switch at the Globe central office. Approximately 17,677 loops directly terminate at Globe, including lines on universal DLCs. ACS also has fifteen remote switches, of which Greenwood is the largest, serving 9,395 lines. Some of these remotes are in small buildings or enclosures, and many are in environmentally controlled, outdoor cabinets. Fairbanks is also served with about 14 concentrators operating in universal mode, some hosted by remote switch modules and some hosted directly by the Globe host DMS-100 switch.

14. Exhibit ET-1, attached hereto, is a schematic representation of the network for Fairbanks, showing the host and remote switches and concentrators, and how they are linked or hosted. Those boxes labeled "DLC" are digital line concentrators, and the boxes labeled "RLCM" or "RSCS" or "OPM" are remote switches. The type of equipment at each site, based on

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<sup>1</sup> These Fairbanks and Juneau network descriptions are based on information ACS gave GCI in 2000. ACS would have to provide additional information to demonstrate where any changes may have occurred.

information currently available to GCI, is also indicated on Exhibit ET-2. Exhibit ET-3 lists the approximate number of lines terminated at each site.

15. GCI is collocated at Globe and at the Greenwood remote switching center. At Globe, GCI can access the 17,677 loops directly served loops via its switching facilities. However, there are an additional 5,777 loops served by the host switch that GCI cannot access due to the ACS network design. These loops feed into the Steese and Van Horn remotes and the Aurora Drive, Wedgewood, and Lameeta OPMs. The sites with lines that cannot be accessed via collocation at the wire center are visually represented on Exhibit ET-1 by the green boxes. In contrast, GCI *can* access the loops served by the Cranberry Ridge, Lakeview, and Skyline DLCs (depicted in white) at Globe.

16. A similar barrier to GCI's loop access via its own switching occurs at the Greenwood site. There, GCI can access approximately 9,000 sub-loops with its switching facilities. However, there are an additional 4,787 sub-loops served from the site that GCI cannot reach at that location. These sub-loops feed into the Chena Pump, Sportsman Way, Goldstream, Miller, Ester, and Chena Ridge sites, and even some of those lines are broken into further sub-loops beyond that. All told, despite over \$2.8 million in collocation and switching investment in Fairbanks, the ACS network design precludes GCI's access to the geographic area served by over 11,000 loops or approximately 29 percent of the loops in Fairbanks. Without UNE-P, GCI will be denied access to these unbundled loops.

### **Juneau**

17. ACS has one host switch in Juneau – at the Juneau Main central office – serving 6,327 directly terminated loops and twelve remotes. Sterling is the largest remote, with 4,928 lines. Four remotes serve between 1,500 and 3,300 lines, and seven remotes serve less than 1,000 lines.



This configuration is represented in Exhibits ET-4 and ET-5, attached hereto. Exhibit ET-4 is a schematic representation of the network, showing the host and remote switches and concentrators, and how they are linked or hosted. Those boxes labeled "DLC" are digital line concentrators; the boxes labeled "RLCM," "RSCS," or "OPM" are remote switching devices as also identified in Exhibit ET-5. Exhibit ET-6 lists the approximate number of lines terminated at each site.

18. GCI is collocated at the host switch, which serves over 22,600 loops. Of these, only approximately 6,000 loops are available as UNE-L. The other loops feed into the Sterling, Auke Bay, Douglas, Lemon Creek, and Mendenhall remotes and the Bonnie Brae, Salmon Creek, and Thane Road OPMs. The sites with lines that cannot be accessed are visually represented on Exhibit ET-4 by the green boxes. In comparison, the Sundown site, depicted by a white box, houses a universal mode DLC so GCI *can* access the loops served by this site at the Juneau Main central office. GCI has also opted to collocate at the Sterling remote, with almost 5,000 of the over 6,000 lines served there accessible via GCI's switch. The inaccessible lines feed into the Trinity Road, Thread Needle, and Lena Point OPMs. Thus, with over \$2 million in collocation and switching investment in Juneau, GCI does not have access to over 11,000 loops at the sites where it is collocated or fully half of GCI's total loops. Without UNE-P, GCI will be denied access to these unbundled loops.

#### **Anchorage**

19. ACS has five host switches at the Central, North, South, West, and East central offices. South hosts the Rabbit Creek, O'Malley, Indian, Huffman, and Girdwood remotes. East host remotes serving Elmendorf and Fort Richardson. There are 11 other non-multi-hosting concentrators or remotes. There are also six IDLC concentrators that are capable of supporting



multi-hosting and to which GCI has established GR-303 links. These offices are listed on Exhibit ET-7.

20. GCI is collocated at seven sites: each of the five central offices and the Rabbit Creek and O'Malley remotes. GCI does not have line counts by central office, remote site, or concentrator for Anchorage, but based on the number of lines GCI serves in Anchorage on a wholesale basis, I estimate that approximately nine percent of ACS lines in the seven sites where GCI is collocated are not accessible by GCI due to concentration or remote switching. Though ACS has continued to deploy DLCs, to date, the deployed equipment has supported multi-hosting, and thus, GCI continues to be able to access the loops served by these devices via its switch deployments. Without UNE-P, however, GCI will be denied access to these unbundled loops still served by devices which do not support multi-hosting.

\* \* \* \*

21. The inability to access loops at the ILEC central office caused by the ILEC's network design cannot be predictably resolved by transitional use of unbundled switching. The only potential solution to this denial of access is network design changes or further collocation at the sub-loop level. Collocation is often not even possible

22. For example, based on GCI's understanding of the ACS network, many of the locations in Fairbanks and Juneau, and a few locations in Anchorage, utilize OPMs or DLCs that have internal cross-connect panels or external cross-connect cabinets, in lieu of main distribution frames. These cross-connect panels and cabinets may or may not accommodate the termination of tie cables from an adjacently collocated DLC. At locations where the cross-connect panels or cabinets will not support the termination of tie cables to a collocated DLC, the only way to gain access to these sub-loops (where access to the loop itself has been denied) is to replace the cross-

connect panel or cabinet with a larger one. Replacing the cabinet would require ACS to install a larger cabinet, half-tap the equipment cables and distribution cables, terminate both in the new cabinet, develop cut-sheets for running jumpers, run new cross-connects (jumpers), then cut off and remove the old cable terminations in original panel or cross-connect. This is a laborious and costly process that is not required when collocating at sites that employ a main distribution frame and would impose additional costs of collocation upon GCI due to ACS' network design decisions.

23. For these reasons, when ACS does not provide any alternative technically feasible means of providing loop access at the central office, it should be required to provide access to the loop in combination with local switching and related signaling and common transport (commonly referred to as UNE-P).

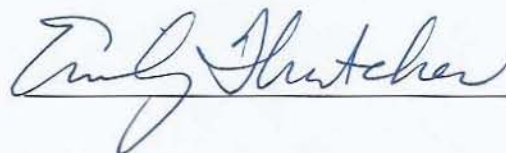
This concludes my declaration.



**Declaration**

I declare under penalty of perjury that the foregoing is true and correct.

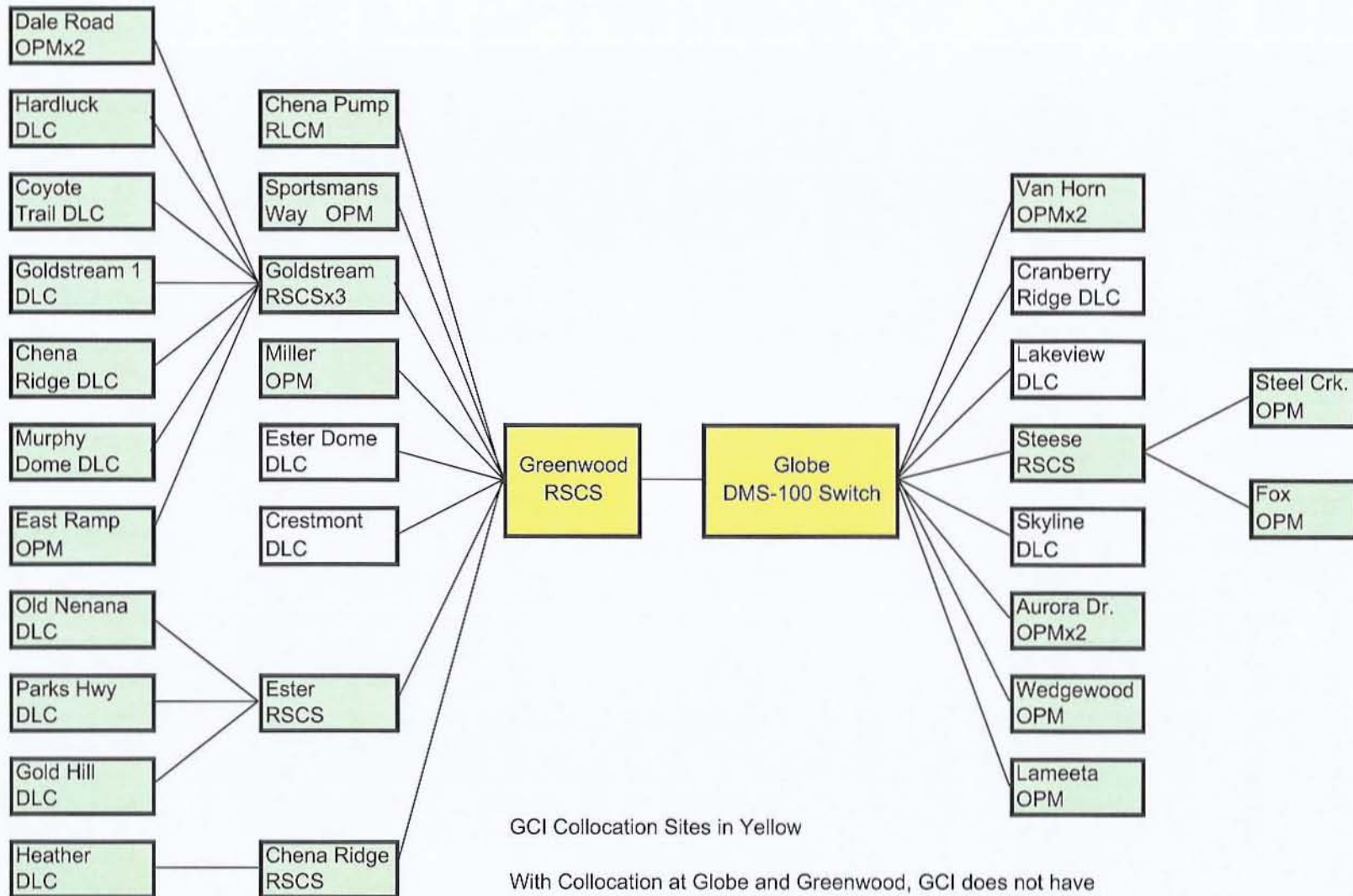
Executed on October 1, 2004

A handwritten signature in cursive script, reading "Emily Thatcher", written over a horizontal line.

Emily Thatcher

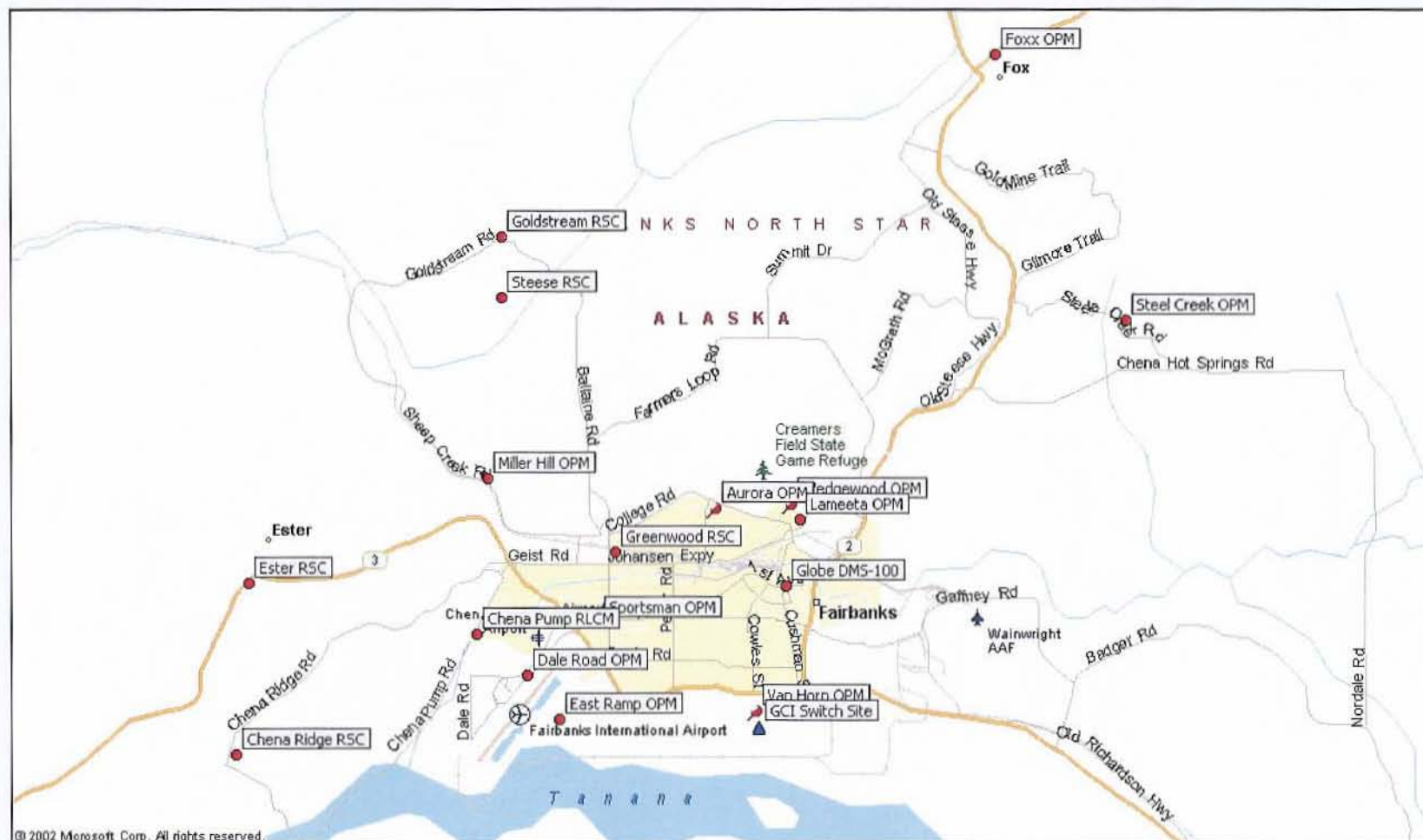
Exhibit ET-1

# Fairbanks Network Diagram





# Fairbanks, Alaska ACS Site Map



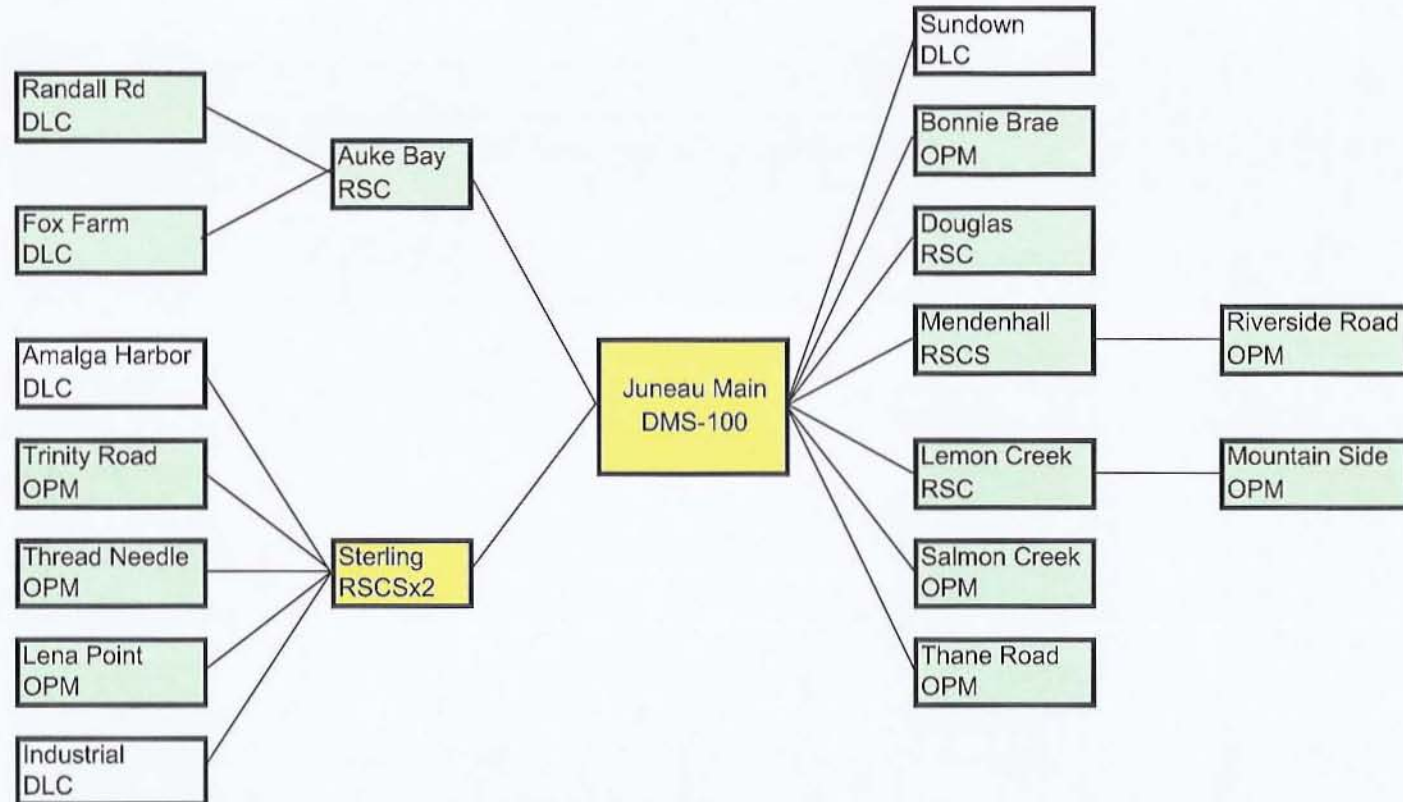
## Estimated Lines in Service - Fairbanks

Location	Collocated	Total Lines In Service
Globe	Yes	16,991
Greenwood	Yes	9,030
Steese	No	2,795
Goldstream	No	1,173
Aurora	No	1,016
Van Horn	No	791
Ester	No	855
Chena Ridge	No	896
Chena Pump	No	412
Dale Road	No	646
Sportsman	No	415
Lameeta	No	386
Wedgewood	No	320
Steel Creek	No	251
Miller Hill	No	220
East Ramp	No	170
Foxx	No	218
<b>Total</b>		<b>36,585</b>

Note: Number of lines based on data provided by ACS in 2000.  
Assumed 2% annual growth rate.



## Juneau Network Diagram

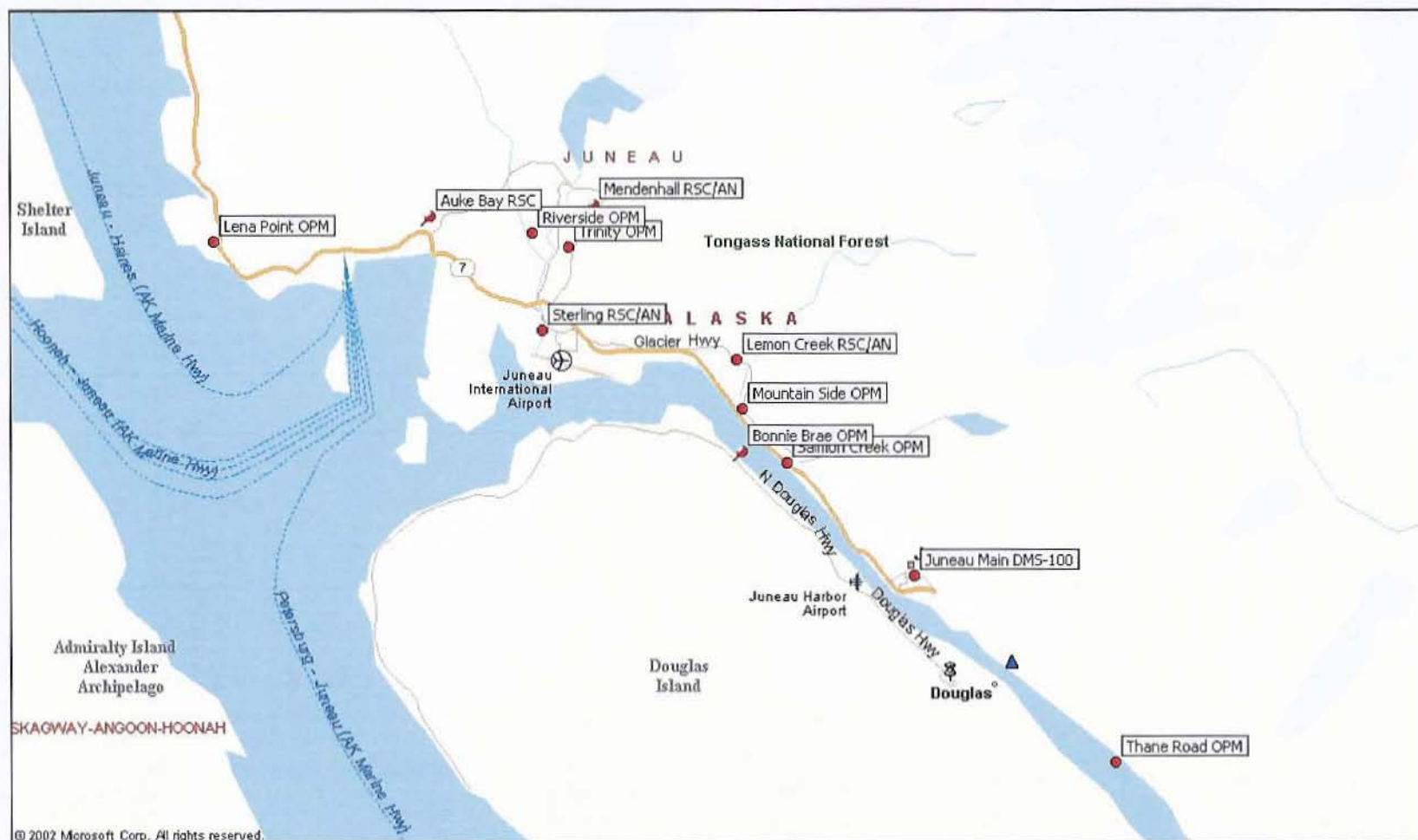


GCI Collocation sites in yellow.

With Collocation at Juneau Main and Sterling, GCI does not have access to loops at locations in green.

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## Juneau, Alaska ACS Site Map



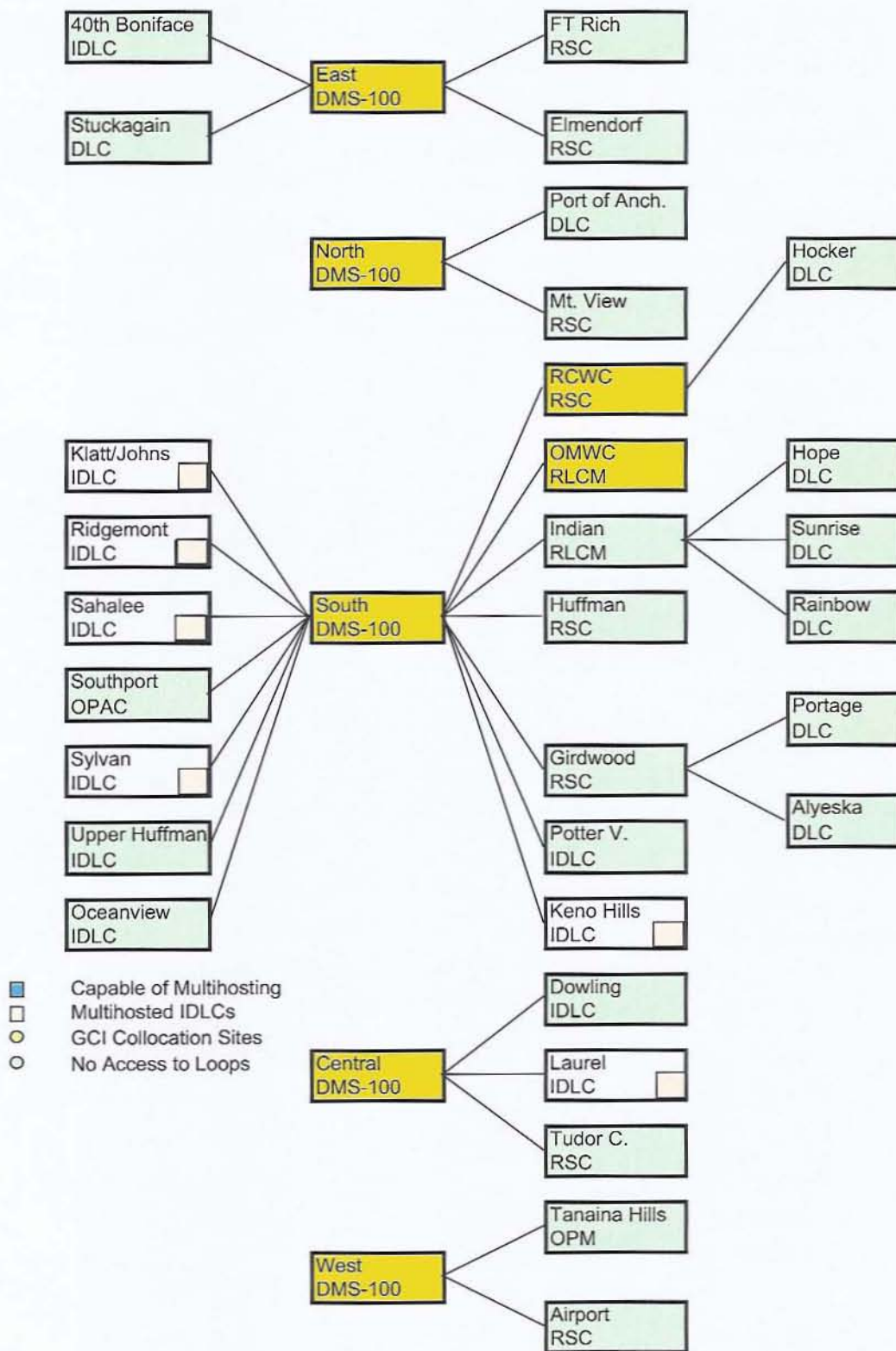


**Exhibit ET-6****Estimated Lines in Service - Juneau**

<b>Location</b>	<b>Collocated</b>	<b>Total Lines In Service</b>
Juneau (Host)	Yes	6,081
Sterling	Yes	4,737
Mendenhall	No	3,119
Lemon Creek	No	2,271
Auke Bay	No	1,835
Douglas	No	1,636
Bonnie Brae	No	628
Salmon Creek	No	612
Trinity	No	541
Riverside	No	441
Thane Road	No	107
Lena Point	No	426
Mountain Side	No	223
<b>Total</b>		<b>22,657</b>

Note: Number of lines based on data provided by ACS in 2000.  
Assumed 2% annual growth rate.

## ACS Anchorage Network Diagram



## Anchorage Bowl CSA's

